# ASSESSING HIGH-SPEED INTERNET ACCESS IN THE STATE OF IOWA: FIFTH ASSESSMENT

A Report of the
Iowa Utilities Board


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## 1.0 INTRODUCTION

During the past decade, the Internet has become an integral part of many Iowans' daily lives. It is used for banking, shopping, research, keeping in touch with family and friends, as well as many other uses. Since the Internet is used for so many different applications, it is important that Iowans have access to high-speed Internet rather than simple dial-up service.

In addition, the availability of high-speed Internet expands competitive choice for voice telecom consumers through an technology known as Voice over Internet Protocol (VoIP). VoIP allows you to make telephone calls using a computer network, over a data network like the Internet. VoIP converts the voice signal from your telephone into a digital signal that travels over the Internet then converts it back at the other end so you can speak to anyone with a regular phone number.[1] VoIP requires a high-speed Internet connection and commonly uses cable-modem or high-speed DSL services. Several traditional telephone companies, such as Qwest and AT&T; as well as nascent companies, such as Vonage and Skype, are using this technology to reach consumers in Iowa; however, its growth is dependent on the availability of high-speed Internet access.

Today high-speed Internet service is available to many Iowans, and they have a choice when it comes to their Internet service. For these Iowans, they can subscribe to a high-speed Internet service with speeds of their choosing for a price or they may choose to subscribe to a dial-up service without additional costs depending on their needs. But for others, high-speed Internet service is not available, and they are limited to dial-up service.

The Iowa Utilities Board (IUB) issued an order initiating inquiry and granting confidentiality in Docket No. NOI-06-2. This docket opened the Fifth Assessment of high-speed Internet access in Iowa and granted confidential treatment of survey responses pursuant to Iowa Code §§ 22.7(3) and 22.7(6). The Fifth Assessment, like previous assessments, attempts to gauge the availability of high-speed Internet access to both rural and non-rural Iowans. The IUB and the Iowa Department of Economic Development submitted the first assessment to the Legislative Oversight Committee of the Legislative Council in October 2000. The report assessed the statewide availability of high-speed Internet access, and recommendations were made that had the potential to ensure access to high-speed Internet service in rural Iowa. The report, "Assessing High-Speed Internet Access in the State of Iowa" (First Assessment), was in compliance with Senate File 2433. In response to recommendations contained in the First Assessment, the IUB conducted a Second, Third, and Fourth Assessment in September 2001, January 2003, and July 2004, respectively.

[1] http://www.fcc.gov/voip/

The state has taken steps to encourage the deployment of high-speed Internet access. In March 2005, Governor Vilsak signed H.F. 277 which mandates that a telephone utility subject to rate regulation (Frontier, Iowa Telecommunication Services Inc. dba Iowa Telecom, and Qwest) that elects to increase single line flat-rated residential or business service rates shall offer digital subscriber line broadband service in all of the telephone utility's exchanges in the state within eighteen months of the first rate increase. Iowa Telecom and Frontier already have high-speed Internet services available in all of their telephone exchanges, but that does not mean that every community (incorporated or unincorporated) will have high-speed Internet access. There are many exchanges that serve more than one community. As an example, the community of Carl, Iowa is primarily served by Frontier's Corning, Iowa exchange, but the remote node site serving Carl is not equipped for high-speed Internet service. Qwest increased its rates pursuant to H.F. 277 in August 2005; therefore, it is required to have high-speed Internet services rolled out to all its telephone exchanges within eighteen months of that date or by the end of February 2007. H.F. 277 does allow the Board to extend the eighteen-month deadline up to nine calendar months for good cause.

The IUB has also encouraged the deployment of high-speed Internet access by working with incumbent and competitive telephone companies. The Board approved Iowa Telecom's Network Improvement Plan that included deployment of high-speed Internet services to all of their exchanges. The Board also approved the tariff filed by MCC Telephony of Iowa (Mediacom) and issued a Certificate of Public Convenience and Necessity allowing them to offer local telephone service via their cable network. To provide telephone service over their cable network, Mediacom had to expand and upgrade their network which allows more Iowans access to high-speed Internet service.

The Board continues to evaluate the level of progress in the deployment of high-speed Internet access through this Fifth Assessment including information related to Internet speeds available to consumers, demand, and pricing of high-speed Internet services. Comparison of this assessment with the earlier efforts is critical if a clear perspective on the developing availability of high-speed Internet access to all residents of the State of Iowa is desired. In order to measure availability, consistency between the assessments is essential. In the Fifth Assessment, the survey, terms, and staff analysis employed are very similar to the methods used in the prior assessments. This report is also consistent with the earlier assessments when it refers to the availability of high-speed Internet access in a community, in that it does not mean access is available to all customers in that community, but is limited by technology. Due to factors such as distance, line quality, and limited amounts of investment, some customers within a community will not have access to high-speed Internet while others within the same community will have access.

This report continues to use the same standard for "high-speed" technologies as the previous assessments. High-speed technology is defined as technology capable of providing access services with over 200 kilobits per second (Kbps), this being consistent with the Federal Communication Commission's (FCC) definition of high-speed Internet access, although actual speeds available today exceed that speed. The FCC, in its Section 706 report to Congress, and this Board, acknowledges that 200 Kbps is merely the "first generation" of this technology.[2] The focus of this report is to determine where at least this "first generation" technology is available in Iowa. This report, like previous assessments, avoids the use of the term "broadband," because it has come to include a wide range of services and facilities that extend beyond the definition of high-speed technologies used in this report.

It is anticipated that the next High-Speed Internet Assessment will be combined with the Third Statewide Telecommunications Competition Survey for Retail Local Voice Services in Iowa. The combined survey is expected to be conducted in or around July 2007.

The IUB sincerely appreciates the cooperation and survey responses from the participating local exchange carriers, cable providers, and wireless/satellite service providers.

Section 2.0 of this report contains the conclusions established from the assessment of the January 2006 survey data. Section 3.0 describes the survey design and the methodology used to compile the data. Section 4.0 provides a detailed analysis of the data collected from the January 2006 survey. Section 5.0 provides a comparison of data from the FCC report, "High-Speed Services for Internet Access: Status as of June 30, 2005" that was issued April 3, 2006. Section 6.0 provides a summary of the report and its findings.

## 2.0 CONCLUSIONS AND COMPARISONS

In January 2006, the IUB completed a point-in-time, community-by-community and zip code-by-zip code, statewide assessment of current, and near-term, high-speed Internet access in Iowa. The IUB assessed telecommunications companies, cable providers, wireless providers, and satellite companies most likely to offer high-speed Internet access in Iowa. The telecommunications companies included all local exchange carriers (LECs), which consist of incumbent local exchange carriers (ILECs) and competitive local exchange carriers (CLECs).

[2] Federal Communications Commission, "Availability of Advanced Telecommunications Capability In the United States FCC 04-208, GN Docket No. 04-54," Fourth Report to Congress, September 9, 2004.

The assessment responses captured data for 1,231 Iowa communities.[3] Of the 1,231 Iowa communities represented in the assessment, 963 of the communities are identified as rural. Rural communities are defined as those Iowa communities with less than 2,500 inhabitants, and are not served by an urban exchange.[4] The assessment identified the remaining 268 communities as non-rural.

The following conclusions were reached based on industry responses to the IUB staff survey. The comparisons are based on information obtained from the first four assessments and the results of the January 2006 assessment.

The report concludes:

**The deployment rates of high-speed technologies in rural and non-rural Iowa communities continue to increase.**

- In Iowa, 1,144 out of 1,231 Iowa communities, or 92.9 percent, currently have access to one or more types of high-speed Internet technology.
- 918 out of 963 rural communities, or 95.3 percent, currently have high-speed Internet access.
- 226 out of 268 non-rural communities, or 84.3 percent, currently have high-speed Internet access.

*Comparison with Earlier Assessment Results*

⇒ In 2004, 679 out of 935 rural communities, or 72.6 percent, had high-speed Internet access; in 2003, 634 out of 935 rural communities, or 67.8 percent, had access; and, in 2000, 246 out of 879 rural communities, or 28.0 percent, had high-speed Internet access.

⇒ In 2004, 199 out of 273 non-rural communities, or 72.9 percent, had high-speed Internet access; in 2003, 185 out of 274 non-rural communities, or 67.5 percent, had access; and, in 2000, 111 out of 266 non-rural communities, or 41.7 percent, had high-speed Internet access.

**Rural communities are achieving a higher rate of deployment of high-speed Internet technologies than non-rural communities.**

- The number of rural communities with high-speed Internet access increased from 679 in July 2004 to 918 in January 2006, or by 35.2 percent.

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[3] The list of Iowa communities included all known rural, non-rural, and unincorporated places as of January 2006.

[4] The definition of "rural" in this report is a variation of the Census Bureau's definition of rural. The Census Bureau's definition includes all communities with fewer than 2,500 inhabitants as well as areas outside of communities including farmland, ranch land, and wilderness. The Census Bureau's definition of rural also includes suburban developments that are close to an urban area. Inclusion of these suburban communities may provide misleading results. As a result, this report only defines communities as rural if the community population is less than 2,500 inhabitants and is not served by an urban exchange. Population data was acquired from the 2000 U.S. Census.